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March 06, 2000

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APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A  
FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 60/116,920

FILING DATE: *January 22, 1999*

PCT APPLICATION NUMBER: PCT/US00/01456

By Authority of the  
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Attorney's Docket No. 22947.00100

NEW PROVISIONAL PATENT APPLICATION TRANSMITTAL

Honorable Commissioner of Patents and Trademarks  
Box Provisional Patent Application  
Washington, D.C. 20231

SIR:  
Transmitted herewith for filing is the provisional patent application of Inventors:

Sashidhar P. Reddi, 135 S. 19th Street, Apt. 1611, Philadelphia, PA 19103

Title: METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS

CERTIFICATION UNDER 37 C.F.R. § 1.10

I hereby certify that this New Application and the documents referred to as enclosed herein are being deposited with the United States Postal Service on this date January 22, 1999, in an envelope bearing "Express Mail Post Office To Addressee" Mailing Label Number EM500427061 US addressed to: Box Provisional Patent Application, Commissioner, US Patent & Trademark Office, 2011 Jefferson Davis Hwy., Washington, D.C. 20231-0002.

Rebecca M. Klits  
(Name of Person Signing)

Rebecca M. Klits  
Signature

Enclosed are:

1. The papers required for filing date under 37 C.F.R. § 1.53(b)(2):
  - 12 Pages of specification (including claims);
  - 7 Sheets of drawings.
  - ☒ formal
  - ☐ informal
2. ☐ Power of Attorney
3. ☐ Assignment of the invention to
4. Fee Calculation
  - Provisional Filing Fee . . . . . \$150.00
  - ☒ Small Entity Statement - verified statement enclosed (unsigned) . . . . . \$75.00
  - ☐ 50% Filing Fee Reduction (if applicable) . . . . .
  - 6. Other Fees
    - ☐ Recording Assignment [\$40.00] . . . . . \$
    - ☐ Other fees . . . . . \$
    - Specify . . . . .
  - Total Fees Enclosed . . . . . \$75.00
7. Payment of Fees
  - ☒ Check(s) no. in the amount of \$ enclosed.
  - ☒ Charge Deposit Account No. 03-3821 in the amount of \$75.00 referencing Attorney Docket No. 22947.00100
  - A duplicate of this transmittal is attached.
8. ☒ Authorization to Charge Additional Fees  
The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication and which may be required under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 03-3821 referencing Attorney Docket No. 22947.00100. A duplicate sheet is attached.
9. ☒ Return Receipt Postcard
10. ☐ Other: Specify

Respectfully submitted,

CROSBY, HEAFEY, ROACH & MAY  
Professional Corporation

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Registration No. 40,343

Dated: January 22, 1999

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Transmittal - New Application  
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# METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS

Inventor: Sashidhar P. Reddi

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

The present invention relates generally to electronic commerce and more particularly to forming temporary online communities that aggregate their buying power to reduce the purchase price of products of interest to the community.

### 2. Description of the Related Art

Many vendors offer discounts for purchasing in high volumes. Typically the purchasing entity is a large corporation that is purchasing a high volume of a product either for its own consumption or to offer the product for sale to other entities who buy smaller units of the product. It is not possible for an individual buyer or a small company to avail of these high volume discounts.

In the physical world, companies such as Sam's Club and Costco, allow individuals and small companies to become members of their "purchasing club"-- being a member of these clubs would allow an individual to benefit from the purchasing power of the entire club. There are four important aspects to this membership:

the membership is an up-front commitment, typically an annual membership with some nominal membership fee.

the membership allows the member a lower price on all the products carried by the Club-- that is, typically there is a price advantage over non-members for all products. though a particular product may be offered by multiple vendors, the members do not directly get involved with negotiating with a particular vendor-- the Club negotiates the discount and each member decides whether he would like to buy the product or not at the stated price.

since the negotiation is done directly by the Club, the members typically do not, and indeed have no reason, to coordinate their activities to improve the price they pay for a product.

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## SUMMARY OF THE INVENTION

To address the shortcomings of the available art, the new method allows buyers to aggregate their purchasing power to avail of volume discounts for specific products. The new system uses the internet for buyers to coordinate their purchasing of a given product. Specifically,

Multiple vendors publish a description of the products they offer along with a price schedule that offers the price for a particular volume of the product. For example, a vendor could state a price schedule that looks as follows:

Number of units purchased at one time	Price per unit
1	\$100
5	\$95
10	\$85
50	\$75
100	\$65
\$1000+	\$50

The above price schedule is quite typical and applies to many products including computers, books, CDs, airline tickets, etc.

Another example of a price schedule could be:

Amount desired by the vendor for the product: \$10,000  
Maximum number of buyers allowed for the product: 5,000  
Price per buyer = \$10,000 divided by the number of buyers, with a limit of 5,000 buyers.

The above price schedule is currently not in much use but in the future could be used as a means of selling products with a fixed cost of production and small or almost zero distribution costs. Examples of such products are research reports, music recordings, films, sporting events, among many others. Without the present invention, it is not possible for a vendor to sell a product directly to the consumer using such a price schedule.

The vendor would set the time frame for the sale by stating that the sale would open at "Opening-Time" and end at "Closing-Time". The total number of buyers registered for the sale at Closing-Time would be aggregated and the final sale price for the product would be computed based on the total number of units for which the buyers have placed an order.

The new method of aggregating buyers can be implemented in a number of ways. Different ways have different advantages and disadvantages, but any one of these approaches would afford a low volume buyer the opportunity to gain high volume discounts.

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the aggregation of purchasing power is for a specific product that is being bid on and not for all the products that are being offered. For that specific product, the bidding buyer has an opportunity for volume discounts based on how many other people bid for the product.

since the final price paid for a product depends entirely on the action of the temporary buying community that is created online, there is every reason for buyers to coordinate their actions. In fact, buyers may invite other prospective buyers who may not be aware of the existence of this vendor or product to join the community. This coordinated buying effort has a direct impact on the final price paid by the temporary buying community for that product.

**Standard ecommerce:** A vendor places products for sale, usually with just one price. An interested buyer can purchase the product online. Even in the cases that a vendor posts a volume based price schedule, it is always meant to apply to a single buyer who may buy multiple units to take advantage of the volume discount. This approach to ecommerce does not address how a low volume buyer can take advantage of the volume discount without having to personally buy more units of the product.

PROVISIONAL APPLICATION FOR PATENT

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## BRIEF DESCRIPTION OF THE DRAWINGS

The aforementioned advantages of the invention, as well as additional advantages thereof, will be more fully understood as a result of a detailed description of a preferred embodiment when taken in conjunction with the accompanying drawings in which.

FIG. 1 illustrates the overall computer system comprised of databases, processes, and input/output forms;

FIG. 2 illustrates the Vendor Process Manager;

FIG. 3 illustrates the Bid Process Manager;

FIG. 4 illustrates the Sale Manager;

FIG. 5 illustrates the Invitation Manager

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## DESCRIPTION OF THE DRAWINGS FOR PREFERRED EMBODIMENT

Described herein is a preferred embodiment, however, one skilled in the art that pertains to the present invention will understand that there are equivalent alternative embodiments.

The new method could be implemented by a system where there is a time "Hold-Time" such that any buyers who were registered at the Hold-Time cannot withdraw their "bid" for the product. Until the Hold-Time any buyer who had indicated an interest in the product can decide to:

increase the number of units being bid,  
introduce a new bid  
decrease the number of units being bid or  
withdraw his bid completely.

After the Hold-Time, any interested buyer can:

increase the number of units being bid,  
introduce a new bid

### FIG. 1

FIG. 1 describes the overall system comprised of the following entities:

#### Entity 102

The "Merchandise Submission Form" allows vendors to submit information about the products they want to offer.

#### Entity 104

The "Invitation Submission Form" allow users to invite others to the system and the "Invitation Acceptance Form" allows invited users to accept the invitation.

#### Entity 106

The "Bid Submission Form" allows a customer to submit a bid for a product.

#### Entity 110

A "Vendor Process Manager" (described in detail in FIG. 2) that enables a Vendor to list a product for sale.

#### Entity 112

A "Sale Manager" (described in detail in FIG. 4) that manages the initiation and the closing of a Sale.

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[illegible]

Entity 116

**Entity 120**

Entity 122

Entity 124

Entity 126

Entity 128

Entity 130

**FIG. 2**

### Step 201

**Step 20:** The system checks to see if the vendor is registered. This step also comprises of authenticating the vendor to see if he is who he says he is. This also includes various ways of identifying a vendor including reading his network address etc.



Step 202

If the vendor is currently not registered with the system, the vendor submits his information and registers himself with the system.

Step 203

The registered vendor submits the completed merchandise description form to the system. The form is checked for validity and completeness including ensuring that the vendor provides a volume based price schedule for the product.

Step 204

If the merchandise description form does not contain all the requisite information or deals with products not acceptable to the system, an error message is sent to the submitting vendor.

Step 205

A merchandise description that passes the check is stored in the Merchandise Description database.

Step 206

The Sale database is updated with a new Sale record, that contains information about the sale of the new merchandise whose description has just been added to the Merchandise Description database.

**FIG. 3**

FIG. 3 describes the Bid Process Manager.

A prospective buyer can register his interest in purchasing a particular product offered in a Sale by placing a bid for the product. This is done using the Bid Process Manager.

Step 301

The prospective buyer, referred to also as a customer, is checked to see whether he is registered with the system. This also includes any authentication steps to ensure that the customer is who he says he is. This could also be accomplished using automated identification and authentication processes.

Step 302

If the customer is not registered with the system, his information is added to the Customer database and he is registered with the system.

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Step 303

If the registered customer wishes to place a new bid in the Sale or to increase the number of units in an existing bid, he can do so at any time from the time that the Sale opens to the time that it closes. However, if he wishes to delete an existing bid or reduce the number of units being bid on then the system checks to see if the Sale is now in a "Hold" status.

Step 304

The system checks to see if the Sale is marked "Hold".

Step 305

If the Sale is marked "Hold" then the customer cannot delete or reduce his bid and hence the system returns an error message to the customer:

Step 306

If the Sale is not on "Hold" then the customer's bid is deleted or reduced as requested. The Bid database is updated accordingly.

Step 307

Since there is a change in the total number of units being bid for in the Sale, the current price of the product is calculated based on the total number of outstanding bids at the current time and the volume based price schedule.

Step 308

If the customer were trying to add a new bid or modify an existing one, the bid is checked for validity. This includes checking to see if the bid refers to the product offered in the Sale, and for quantities that are currently available.

Step 309

If the bid is not valid for any reason an error message is sent out to the customer.

Step 310

If the bid is valid, the Bid database is updated with the new bid.

Step 311

Since the total number of units being bid has changed, the current price of the product is calculated using the total number of units currently being bid and the volume based price schedule.

#### FIG. 4

FIG. 4 describes the Sale Manager.

The Sale Manager describes the steps taken to initiate a new Sale to the steps to close out a Sale. Every Sale in the Sale database is in one of four different states: (1) New (2) Active (3) Hold and (4) Closed. Vendors add new Sales to the Sales database. The Sale Manager then manages the process by which a new Sale becomes Active, Hold, or Closed.

##### Step 401

The Sale database is queried for all new Sales whose "Effective Time" is at or past the current time.

##### Step 402

All such new Sales are now marked as "Active".

##### Step 403

These newly Active Sales are posted to the web. This includes getting the corresponding merchandise description from the Merchandise Description database and combining that with the Sale information, formatting all of it appropriately, putting the final description through an approval process that may be automated, and then publishing the information on to the web.

##### Step 404

The system queries the Sale database for all Active Sales with a "Hold" time that is at or past the current time.

##### Step 405

The resulting Sales are marked "Hold". So customers with an interest in products offered by these Sales now marked Hold cannot delete or reduce their bids for the products offered in these Sales.

##### Step 406

The system queries the Sale database for all "Hold" Sales with a Closing Time that is at or past the current time.

##### Step 407

The resulting Sales are marked "Closed". This means that customers can no longer bid on the products offered in those Sales.

##### Step 408

For each Sale that has just been marked "Closed" the system processes the Sale. The processing steps are described in Steps 9 through 13.

Step 409

For a given closed Sale, all the outstanding bids are obtained from the Bid database.

Step 410

The final sale price of the product is computed by using the total number of units being bid for and the volume based price schedule.

Step 411

The product vendor's information is obtained from the Vendor database. A purchase order is constructed for each customer whose bid remained outstanding at the end of the Sale. The purchase order will state the number of units bid by the customer and the unit price will be the price calculated in Step 10.

Step 412

All the bids that have been processed will be deleted from the Bid database. The newly created orders, for which purchase orders were generated in Step 11, are added to the Orders database.

Step 413

The processed Sale is now deleted from the Sale database.

Step 414

The Steps 9-13 are repeated until there are no more Closed Sales to process.

**FIG. 5**

FIG. 5 describes the Invitation Manager.

The Invitation Manager is used by customers to invite other users to join the system and bid on products. Users wishing to accept the invitation use the Invitation Manager to do so.

Step 501

Users may submit one of two forms: (1) an invitation submission form or (2) an invitation acceptance form. If a customer wishes to submit an invitation, he is taken through Steps 2-6. If an user wishes to accept an invitation, he is taken through Steps 7-9.

Step 502

Only a registered customer can invite other users. So the system checks to see if the customer is registered. This step includes authenticating the customer.

Step 503

If the customer is not registered, he may provide his information and get registered with the system. The customer information is then added to the Customer database.

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The concentration of the *Agrobacterium* suspension was 10<sup>6</sup> cells/ml (A), 10<sup>7</sup> cells/ml (B), 10<sup>8</sup> cells/ml (C), 10<sup>9</sup> cells/ml (D), 10<sup>10</sup> cells/ml (E), and 10<sup>11</sup> cells/ml (F). The concentration of the *Agrobacterium* suspension was 10<sup>6</sup> cells/ml (A), 10<sup>7</sup> cells/ml (B), 10<sup>8</sup> cells/ml (C), 10<sup>9</sup> cells/ml (D), 10<sup>10</sup> cells/ml (E), and 10<sup>11</sup> cells/ml (F). The concentration of the *Agrobacterium* suspension was 10<sup>6</sup> cells/ml (A), 10<sup>7</sup> cells/ml (B), 10<sup>8</sup> cells/ml (C), 10<sup>9</sup> cells/ml (D), 10<sup>10</sup> cells/ml (E), and 10<sup>11</sup> cells/ml (F).

### Step 505

### Step 506

### Step 507

### Step 508

### Step 509

PROVISIONAL APPLICATION FOR PATENT

# **METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS**

**Inventor: Sashi P. Reddi**

## **ABSTRACT**

A method and system for low volume buyers to aggregate their purchasing power to gain high volume discounts. Vendors display information about their products and services along with a price schedule that provides greater discounts for bigger volume of purchases. For example, buying 1 unit costs \$100 per unit, 10 units would cost \$90 per unit, and 1000 units cost \$60 per unit. Another example of a volume discount is the price paid by each buyer is the total value demanded by the vendor divided equally between all interested buyers. Buyers then aggregate online to take advantage of these volume discounts. Unlike an auction model, where more buyers mean higher prices, here more buyers lead to lower prices.

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Applicant or Patentee: Sashidhar P. Reddi  
Serial or Patent No.: (new)  
Filed or Issued: Herewith  
For: METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS

Attorney Docket No.:  
22947.00100 - PATENT

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY  
STATUS (37 CFR §§ 1.9(f)) -- INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR § 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled METHOD AND SYSTEM FOR LOW VOLUME BUYERS TO AGGREGATE PURCHASING POWER TO GAIN HIGH VOLUME DISCOUNTS described in

- ☒ the specification filed herewith.  
☐ the application identified above.  
☐ the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR § 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR § 1.9(d) or a nonprofit organization under 37 CFR § 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern, or organization  
☐ persons, concerns or organizations listed below\*

\*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR § 1.27).

FULL NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR § 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Sashidhar P. Reddi

Signature \_\_\_\_\_

Date \_\_\_\_\_

# GENERAL DESCRIPTION

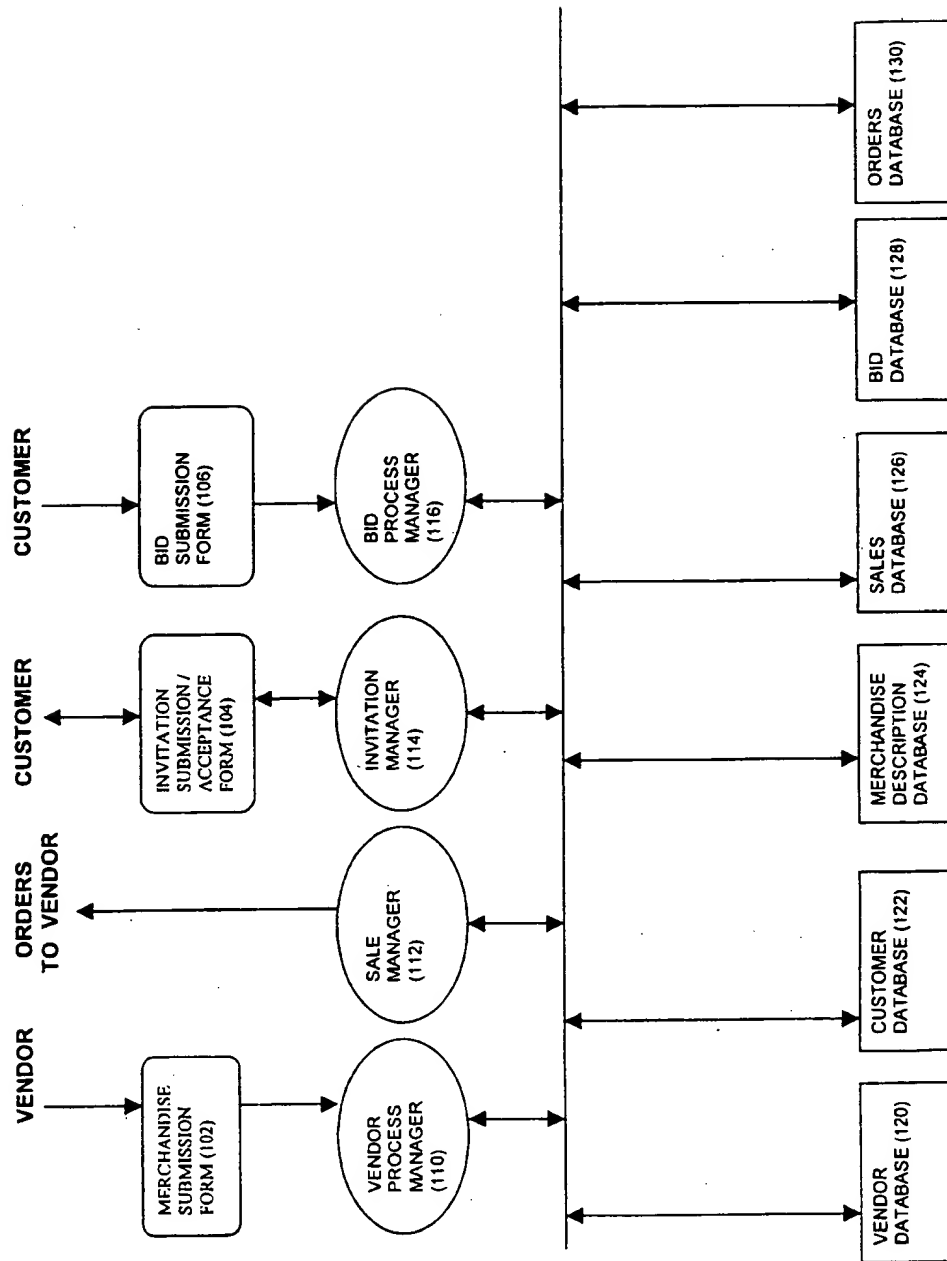


FIG. 1  
OVERALL SYSTEM



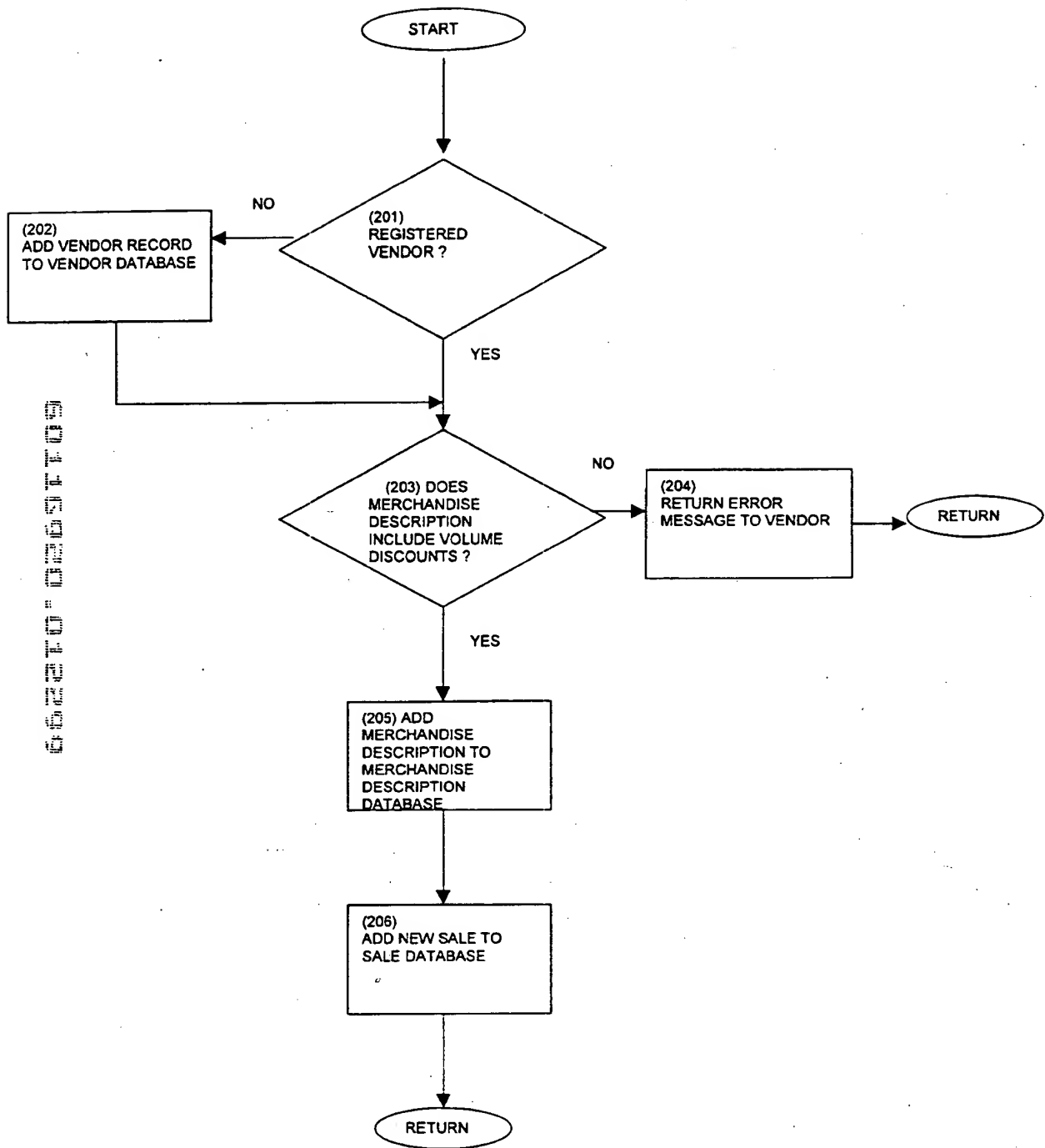
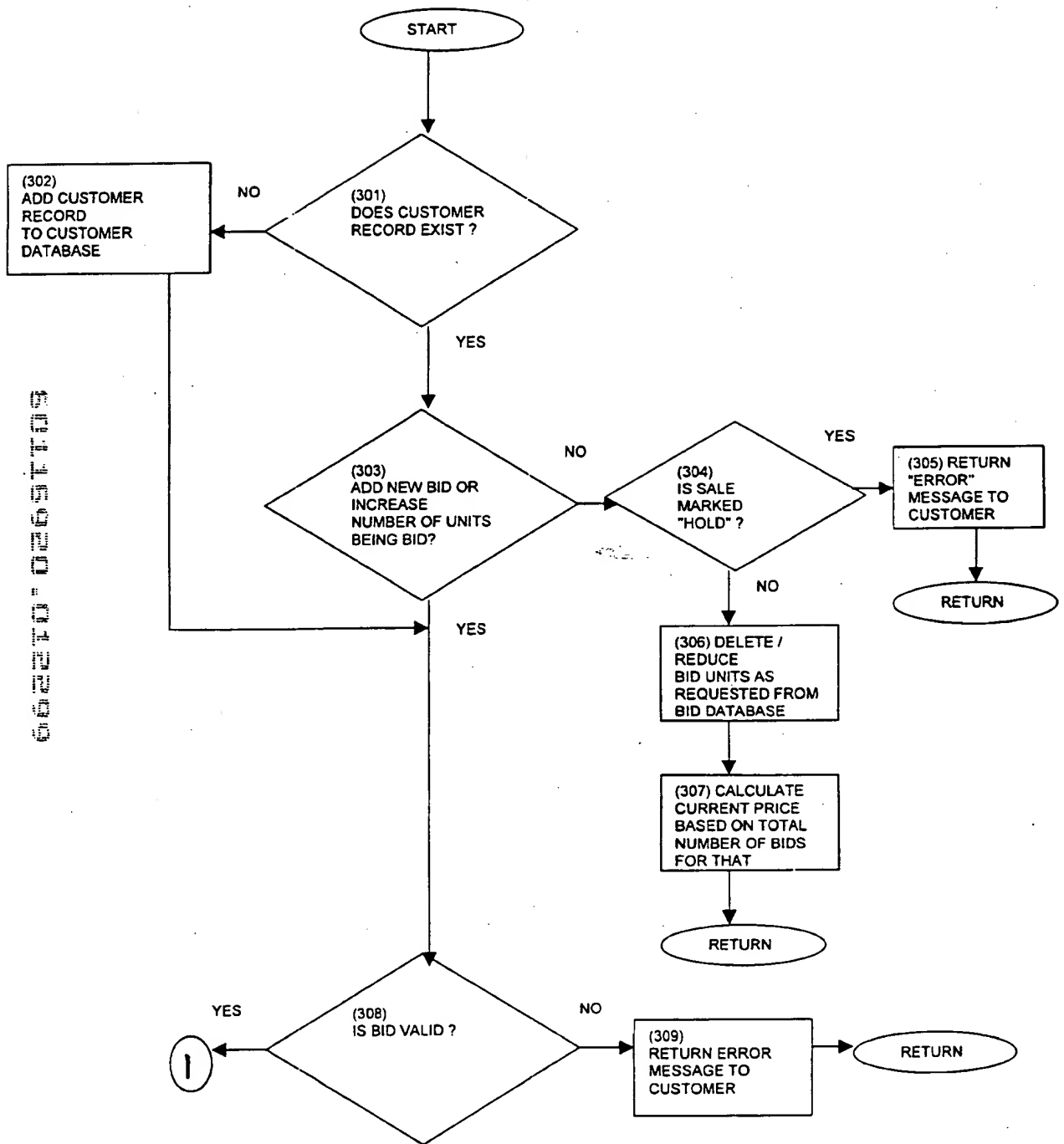
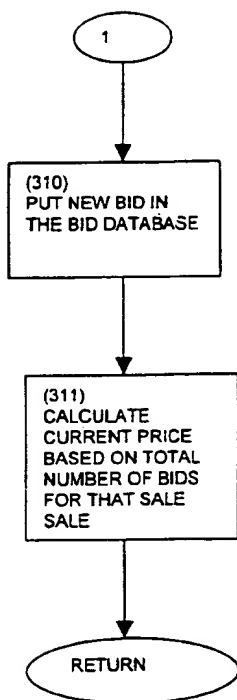


FIG. 2  
VENDOR PROCESS MANAGER



**FIG. 3A**  
**BID PROCESS MANAGER**

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**FIG. 38**  
**BID PROCESS MANAGER**

```

graph TD
    START([START]) --> 401[401) QUERY SALE DATABASE  
FOR "NEW SALES" WITH  
EFFECTIVE TIME <= CURRENT TIME]
    401 --> 402[402) MARK RESULTING SALES  
AS "ACTIVE"]
    402 --> 403[403) POST CORRESPONDING  
MERCHANDISE TO WEB  
SITE]
    403 --> 404[404) QUERY SALES  
DATABASE  
FOR "ACTIVE" SALES WITH  
HOLD TIME >= CURRENT TIME]
    404 --> 405[405) MARK RESULTING  
SALES  
AS "HOLD"]
    405 --> 406[406) QUERY SALE  
DATABASE  
FOR "HOLD" SALES WITH  
CLOSING TIME >= CURRENT TIME]
    406 --> 407[407) MARK RESULTING SALES  
AS "CLOSED"]
    407 --> 1((1))
  
```

FIG. 4 A

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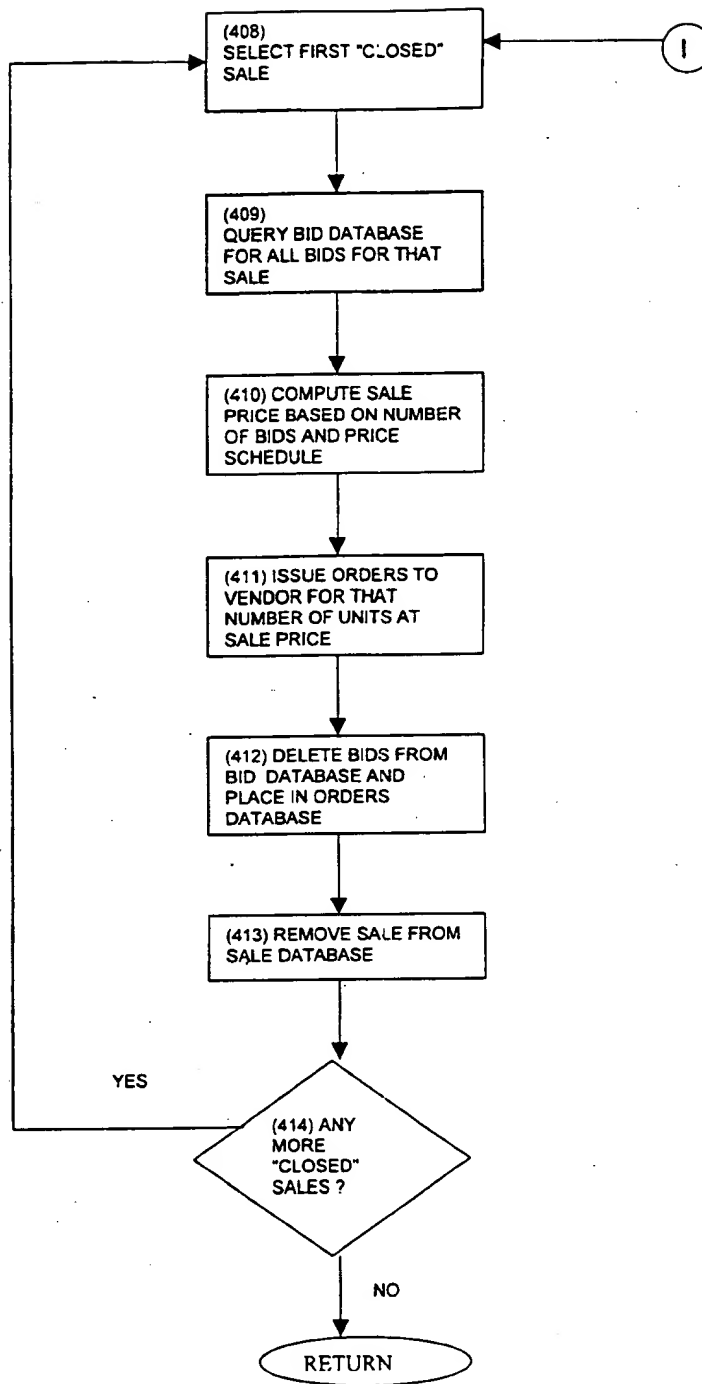


FIG. 4B  
SALE MANAGER

```

graph TD
    START([START]) --> D501{501 FORM TYPE ?}
    D501 -- ACCEPTANCE --> D507{507 REGISTERED CUSTOMER ?}
    D507 -- YES --> RETURN1([RETURN])
    D507 -- NO --> P508[508 ADD CUSTOMER TO CUSTOMER DATABASE]
    P508 --> P509[509 ADD "INVITOR ID" TO CUSTOMER RECORD]
    P509 --> RETURN2([RETURN])
    D501 -- SUBMISSION --> D502{502 REGISTERED CUSTOMER ?}
    D502 -- NO --> P503[503 ADD TO CUSTOMER DATABASE]
    P503 --> D504{504 VALID SUBMISSION ?}
    D502 -- YES --> D504
    D504 -- NO --> P505[505 RETURN ERROR MESSAGE]
    P505 --> RETURN3([RETURN])
    D504 -- YES --> P506[506 SEND OUT INVITATION]
    P506 --> RETURN4([RETURN])
  
```

## INVITATION MANAGER



P O



34, chemin des Colombettes  
**1211 GENEVE 20, SUISSE**

